DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A78EU
Revision 14
PILATUS PC-12
PILATUS PC-12/45
PILATUS PC-12/47
April 13, 2006

TYPE CERTIFICATE DATA SHEET No. A78EU

This data sheet, which is a part of Type Certificate No. A78EU, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder. PILATUS AIRCRAFT LTD.
CH-6370 STANS
SWITZERLAND

I. Pilatus PC-12, Normal Category, approved July 15, 1994.

Engine. Pratt & Whitney PT6A-67B

Fuel. JET A, JET A-1, JET B, JP 4 and other fuels according to PRATT & WHITNEY Service Bulletin SB 14004.

Engine Limits.

	Shaft Power	Torque	N_1 Gas Generator Speed	Prop Shaft Speed	Maximum Observed Inter Turbine Temp.
	shp	PSI	%	RPM	ºC
Take-off	1200	44.34	104	1700	800
Max. climb/Max. cruise	1000	36.95	104	1700	760
Starting (5 seconds)	---	---	---	---	1000
Transient (20 seconds)	---	61.00	104	1870	870

Note: 100% Gas Generator Speed = 37,468 RPM

Propeller and Propeller Limits. Hartzell HC-E4A-3D hub with Hartzell E10477K aluminum blades; four blade constant speed type.

Spinner: Hartzell D5500-1 (Aluminum)

Diameter: 104 in (2.642 m) to 105 m (2.667 m)
cropping of blade tips not permitted.

Pitch settings (measured at 42 in. station)
Fine pitch 19.0º
Min. pitch in flight 6.0º
Max. reverse pitch -17.5º
Feathered 79.6º
Stabilized ground operation is prohibited between 350 and 950 RPM.

Airspeed Limits (EAS).	Max. operating speed	V_{MO} 240 kts
	Max. operating Mach No.	M_{MO} 0.48
	Max. diving speed	V_D 280 kts M_D 0.60
	Max. maneuvering design speed	V_A 170 kts
	Max. maneuvering operating speed	V_O 154 kts at 4100 kg (9039 lbs) V_O 136 kts at 3200 kg (7060 lbs) V_O 123 kts at 2600 kg (5730 lbs)

Center of Gravity Limits. At 4100 kg (9039 lbs) 27% MAC to 44% MAC

Forward cg limit varies linearly between: (landing gear extended)

4100 kg (9039 lbs)	27% MAC
3700 kg (8157 lbs)	17.8% MAC
2700 kg (5952 lbs) and less	13% MAC

Rear cg limit varies linearly between: (landing gear retracted)

4100 kg (9039 lbs)	44% MAC
3600 kg (7937 lbs)	46% MAC
3000 kg (6614 lbs)	46% MAC
2550 kg (5622 lbs) and less	20% MAC

Datum. 3000 mm (118 in.) forward of firewall (frame no. 10).

Leveling Means. Cabin Seat Rails
(see Section 8 of the Airplane Maintenance Manual).

Maximum Weight. Ramp weight 4120 kg (9083 lbs)
Take-off weight 4100 kg (9039 lbs)
Landing weight 4100 kg (9039 lbs)
Max. zero fuel weight 3700 kg (8159 lbs)

Minimum Crew. One pilot.

Number of Seats. 9 PAX and 2 pilot seats
(for seat locations see Airplane Flight Manual, Section 6, W & B).

Maximum Baggage. 180 kg (400 lbs)
(baggage compartment at rear of cabin).

Maximum Loading. (Combi version) 1000 kg/m2 (205 lb/ft2) on seat rails
600 kg/m2 (125 lb/ft2) on cabin floor
(for loading limitations/instructions see Section 6 of the Airplane Flight Manual).$

Fuel Capacity (Specific gravity 0.806 kg/ltr)	Total	Usable	Arm
	1540 ltr (1241 kg) (406 US gal)	1516 ltr (1222 kg) (400 US gal)	5.91 m (233 in) aft of datum
		1522 ltr (1226 kg) (402 US gal)	(see Note 1)

Oil Capacity.	Total	Arm
	13,6 ltr (3.6 US gal)	2.41 m (95 in) aft of datum

Control Surfaces	Wing flap	15º + 0º /-1.5° Take-off	39.5º +/- 0.5º Landing
	(left/right asymmetry 1°)		
	Ailerons	30º +/- 1º Up	10º +/- 1º down
	Elevator	28º +/- 1º Up	15º +/- 1º down
	Stabilizer (trim)	2.5º + 0.7º /- 0.2ºup	7.5º + 0.7º / - 0.2º down
	(with respect to stabilizer leading edge)		
	Rudder	35º +/- 1º right	25º +/- 1º left
	(from centerline and measured horizontally)		
	Rudder tab (trim)	7.5º + 1º /- 1.5º right	13º + 1º/- 1.5º left
	Aileron tab (trim)	16.5º + /-1º up	16.5º +/- 1º down

Stick Pusher System. Stick shaker/stick pusher system, signaled by AOA vanes on left and right wing leading edges.

Serial Numbers Eligible. SN 101 and up (See Note 5 and Note 10).

Import Requirements- All Models.

a. To be considered eligible for operation in the United States, each aircraft manufactured under this type certificate must be accompanied by a certificate of airworthiness for export or certifying statement endorsed by the exporting foreign civil airworthiness authority which states (in the English language): "This aircraft conforms to its U.S. type design (Type Certificate Number A78EU) and is in a condition for safe operation".

b. An airplane maintenance manual in compliance with FAR 23.1529 must be furnished before delivery of the first airplane or issuance of standard certificate of airworthiness whichever occurs later.

Certification Basis.

1) 14 CFR Sections 21.29, 21.183(c) and 14 CFR 23, Normal Category, effective February 4, 1991, including Amendments 23-1 through 23-42 and Section 23.1305c)3) of Amendment 23-43 and Section 23.1507 of Amendment 23-45 and Section 23.1311 of Amendment 23-49 and
2) 14 CFR Section 36, effective November 18, 1969, including Amendments 36-1 through amendment in effect at the time of U.S. Type Certification, and
3) 14 CFR Section 34, effective September 10, 1990, and
4) Equivalent Level of Safety,
   a) ACE-94-8 of June 21, 1994, Spin demonstration, FAR 23.221 a)2)
   b) Cabin pressure indicator, FAR 23.841b) 6). See NOTE 8.
5) Section 611(b) of the FAA Act of 1958
6) Certification Maintenance Requirement (CMR), manual pitch trim system annunciation
7) Special Conditions: High Energy Radiated Electromagnetic Fields, (HERF), Number 23-ACE-46, effective date May 29, 1990
8) Approved for Flight Into Known Icing. See NOTE 4.

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.
In addition the following is required:

Airplane Flight Manual
(including Equipment list and applicable supplements)

-S/N 101-400: (except S/N 321)	Report No. 01973-001
-S/N 321 and 401 and subsequent	Report No. 02211

Service Information. "Service Bulletins, Airplane Flight Manuals incl. Supplements and any other service information, which contain a statement that the document is Swiss Federal Office of Civil Aviation (FOCA) approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only."

Available Documents for the PILATUS PC-12 are:

Airplane Flight Manual	For S/N 101 – 400 except 321: Doc. No. 01973-001 Revision 2, dated February 14, 1995 or later FOCA approved revisions. For S/N 321 and 401 and subsequent: Doc No. 02211 (PC-12 data is contained in AFMS No. 25; Doc. No. 02211/9-25)
Aircraft Maintenance Manual (Chapter 4 FOCA approved)	Doc. No. 02049.
Structural Repair Manual	Doc. No. 02050.
Illustrated Parts Catalogue	Doc. No. 02051.

II. Pilatus PC-12/45 (Normal Category), approved July 31, 1996.

The data given above is valid except where mentioned below:

Airspeed Limits (EAS):

Max. diving speed		V_D 290 kts M_D 0.62 (S/N 101 – 683) M_D 0.58 (S/N 684 onwards)
Max. maneuvering operating speed		V_O 161 kts at 4500 kg)
Stall speed (at TOW)	Flaps up	93 kts (CAS)
(engine running flight idle)	Flaps down	65 kts (CAS)

Center of Gravity Limits. At 4500 kg 30% MAC to 43% MAC

Forward cg limit varies linearly between: (landing gear extended)

4500 kg (9921 lbs)	30% MAC
3700 kg (8157 lbs)	18% MAC
2600 kg (5732 lbs) and less	13% MAC

Rear cg limit varies linearly between: (landing gear retracted)

4500 kg (9921 lbs)	43% MAC
3600 kg (7937 lbs)	46% MAC
3000 kg (6614 lbs)	46% MAC
2600 kg (5732 lbs) and less	20% MAC

Maximum Weights.

Ramp weight	4520 kg (9965 lbs)
Take-off weight	4500 kg (9921 lbs)
Landing weight	4500 kg (9921 lbs)
Max. zero fuel weight	4100 kg (9039 lbs)

Control Surfaces.

Wing flaps	15° +0°/-1.5°	Normal Take-off
	30° +0°/-1.5°	Short Take-off
	39.5° +/-0.5°	Landing
	(left/right asymmetry 1°)	

S/N 684 Onwards:

Ailerons	26.5º +/- 0.5º Up	13º +/- 0.5º down
Aileron tab (trim function only – left hand tab)	13.9º + /-1.0º up	14.5º +/- 1.0º down
Aileron tab (balance function only – both tabs)	15.5º + /-1.0º up	15.8º +/- 1.0º down

Control Surfaces (Cont.)

Aileron tab (combined trim and balance function – left hand tab)	29.3º + /-1.0º up	28.4º +/- 1.0º down

When the ailerons are in the neutral position, both tabs are deflected 5º+/- 0.5º up.

Certification Basis

1) 14 CFR Sections 21.29, 21.183(c) and 14 CFR 23, Normal Category, effective February 4, 1991, including Amendments 23-1 through 23-42 and Section 23.1305c)3) of Amendment 23-43 and Section 23.49c) and 23.562d) of Amendment 23-44 Section 23.479b) & c) and Section 23.1507 of Amendment 23-45 and Section 23.1311 of Amendment 23-49
2) 14 CFR Section 36, effective November 18, 1969, including Amendments 36-1 through amendment in effect at the time of U.S. Type Certification, and
3) 14 CFR Section 34, effective September 10, 1990, and
4) Equivalent level of Safety,
   a) ACE-94-8 of June 21, 1994, Spin demonstration, FAR 23.221 a)2)
   b) Cabin pressure indicator, FAR 23.841b) 6). See NOTE 8.
5) Section 611(b) of the FAA Act of 1958
6) Certification Maintenance Requirement (CMR), manual pitch trim system annunciation
7) Special Conditions: High Energy Radiated Electromagnetic Fields, (HERF), Number 23-ACE-46, effective date May 29, 1990
8) Approved for Flight Into Known Icing. See NOTE 4.

Service Information.

Available Documents for the PILATUS PC-12/45 are:

For S/N 101 – 400, except 321: Airplane Flight Manual Supplement No. 8 (Doc. No. 01973-001 / 9-08)
Initial issue, or later FOCA approved revisions.

For S/N 321 and S/N 401and subsequent: Airplane Flight Manual Report No. 02211
Initial issue or later FOCA approved revisions.

III. Pilatus PC-12/47 (Normal Category), approved December 23, 2005.

The data given for model PC-12 is valid except where mentioned below:

Airspeed Limits (EAS):

Max. diving speed		V_D 290 kts M_D 0.58	
Max. maneuvering operating speed		V_O	163 kts at 4740 kg (10450 lbs)
Stall speed (at TOW)	Flaps up		95 kts (CAS)
(engine running flight idle)	Flaps down		67 kts (CAS)

Center of Gravity Limits.

At 4740 kg 30% MAC to 42.2% MAC

Forward cg limit varies linearly between: (landing gear extended)

4740 kg (10450 lbs)	30% MAC
4500 kg (9921 lbs)	30% MAC
3700 kg (8157 lbs)	18% MAC
2600 kg (5732 lbs) and less	13% MAC

Rear cg limit varies linearly between: (landing gear retracted)

4740 kg (10450 lbs)	42.2% MAC
4500 kg (9921 lbs)	43% MAC
3600 kg (7937 lbs)	46% MAC
3000 kg (6614 lbs)	46% MAC
2600 kg (5732 lbs) and less	20% MAC

Maximum Weights.

Ramp weight	4760 kg (10495 lbs)
Take-off weight	4740 kg (10450 lbs)
Landing weight	4500 kg (9921 lbs)
Max. zero fuel weight	4100 kg (9039 lbs)

Control Surfaces.

Wing flaps	15° +0°/-1.5°	Normal Take-off	
	30° +0°/-1.5°	Short Take-off	
	39.5° +/-0.5°	Landing	
	(left/right asymmetry 1°)		
Ailerons	26.5º +/- 0.5º Up		13º +/- 0.5º down
Aileron tab	13.9º + /-1.0º up		14.5º +/- 1.0º down
(trim function only – left hand tab)			
Aileron tab	15.5º + /-1.0º up		15.8º +/- 1.0º down
(balance function only – both tabs)			
Aileron tab	29.3º + /-1.0º up		28.4º +/- 1.0º down
(combined trim and balance function – left hand tab)			

When the ailerons are in the neutral position, both tabs are deflected 5º+/- 0.5º up.

Certification Basis

1) 14 CFR Sections 21.29, 21.183(c) and 14 CFR 23, Normal Category, effective February 4, 1991, including Amendments 23-1 through 23-42 and Section 23.1305c)3) of Amendment 23-43 and Section 23.49c) and 23.562d) of Amendment 23-44 Section 23.479b) & c) and Section 23.1507 of Amendment 23-45 and Section 23.1311 of Amendment 23-49
2) 14 CFR Section 36, effective November 18, 1969, including Amendments 36-1 through amendment 36-27, effective September 6, 2005,
3) 14 CFR Section 34, effective September 10, 1990, including amendments 34-1 as amended through Amendment 34-3 effective February 3, 1999;
4) Equivalent level of Safety findings per provision of 14 CFR 21.21(b)(1):
   a) ACE-94-8 of June 21, 1994, Spin demonstration, FAR 23.221 a)2) as extended by FAA memorandum dated November 29, 2005.
   b) ACE-05-18 of November 29, 2005, Cabin pressure indicator, FAR 23.841b) 6)
5) Special Conditions: High Energy Radiated Electromagnetic Fields, (HERF), Number 23-ACE-46, effective date May 29, 1990
6) Approved for Flight Into Known Icing . See NOTE 4.
7) Section 611(b) of the FAA Act of 1958
8) Certification Maintenance Requirement (CMR), manual pitch trim system annunciation

Date of Application for U.S. Amended Type Certificate for PC-12/47 model December 1, 2004.

Service Information.

Available Documents for the PILATUS PC-12/47 are:

Airplane Flight Manual Report No. 02211,
Initial issue or later FOCA approved revisions.
(specific PC-12/47 data is contained in AFM Supplement No. 33)

Aircraft Maintenance Manual Doc. No. 02049 Revision 17, dated 31 Jan 2006 or higher.
(until Revision 17 is issued the information is contained in AMM Temporary Revisions No 04-14, dated December 1, 2005, No 27-31, dated December 16, 2005 and No 57-07, dated December 16, 2005.)
(Chapter 4 FAA and FOCA approved)

NOTES

NOTE 1. Current weight and balance data together with a list of equipment included in the certificated empty weight, and loading instructions, when necessary, must be provided for each airplane at the time of original certification. The certificated empty weight and corresponding center of gravity locations must include the following:

a) unusable fuel of 19.6 kg (43.2 lbs) at 5.73 m (225.6 in) on S/N 101 up to and including S/N 140. unusable fuel of 14.9 kg (32.9 lbs) at 5.73 m (225.6 in) from S/N 141 on onwards.

b) engine oil of 9.2 kg (20.3 lbs) at 2.41 m (95.27 in.)

NOTE 2. Airplane operation must be in accordance with the FOCA-approved Airplane Flight Manual listed above. All placards listed in Section 2 of the AFM must be displayed in the appropriate location.

NOTE 3. Airworthiness Limitations are contained in the FOCA approved Chapter 4 of the PC-12, PC-12/45 & PC-12/47 Aircraft Maintenance Manual. These Limitations may not be changed without FOCA and FAA approval.

NOTE 4. The models PC-12 and PC-12/45 up to S/N 683 may be operated in know icing conditions when equipped in accordance with Pilatus Modification PIL 12/00/001, Rev. 1, or later FOCA approved revision. The models PC-12/45 and PC-12/47 from S/N 684 onwards are approved for operation in known icing conditions.

NOTE 5. The basic version PC-12 (S/N 101 - 683) may be converted to a version PC-12/45 by executing PILATUS Service Bulletin No. 04-001.

NOTE 6. Only interior configurations described in the official Pilatus AFM/POH are approved for installation in the PC-12, PC-12/45 and PC-12/47 aircraft. These configurations have been shown to meet the dynamic and HIC test requirements of FAR 23.562. Any alterations to these approved interior layouts must be shown to meet FAR 23.562.

NOTE 7. All PC-12 models are eligible for import (with FOCA export certificate of airworthiness) into the USA in the no cabin interior configuration option installation per Pilatus Document 500.20.12.399 for ferry flight delivery to the USA. After delivery in this configuration, the airplane is eligible for standard airworthiness certificate in the no cabin interior configuration per Pilatus Document 500.20.12.399, but carriage of passengers (other than those essential to the mission) in this configuration is prohibited. While the airplane is in this configuration it is subject to limitations and inspections defined in the Airworthiness Limitations Sections. The passenger prohibition can be removed after installation of a Pilatus factory interior is installed per Pilatus Document No. 02252 or other FAA approved interior is installed.

NOTE 8. An ELOS memorandum was inadvertently missed on the original PC-12 model and PC-12/45 model, but was evaluated during the validation of the PC-12/47. See FAA memorandum dated December 9, 2005 for details.

NOTE 9. The PC-12/45 model incorporated an aerodynamic improvement modification (AIM) type design change that was approved at the same time the PC-12/47 model was approved. This modification is for production aircraft only and includes: modified wingtips, modified dorsal and ventral fins and modified ailerons (reduction of roll control forces).

NOTE 10. Starting with Manufacture Serial Number (MSN) 684 can be either a PC-12/45 with the AIM type design change or a PC-12/47 model.

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